National Institute of Environmental Health Sciences

Effects of climatic changes and urban air pollution on the rising trends of respiratory allergy and asthma

Author(s): D'Amato G
Year: 2011
Journal: Multidisciplinary Respiratory Medicine. 6 (1): 28-37

Abstract:

Over the past two decades there has been increasing interest in studies regarding effects on human health of climate changes and urban air pollution. Climate change induced by anthropogenic warming of the earth's atmosphere is a daunting problem and there are several observations about the role of urbanization, with its high levels of vehicle emissions and other pollutants, and westernized lifestyle with respect to the rising frequency of respiratory allergic diseases observed in most industrialized countries. There is also evidence that asthmatic subjects are at increased risk of developing exacerbations of bronchial obstruction with exposure to gaseous (ozone, nitrogen dioxide, sulfur dioxide) and particulate inhalable components of air pollution. A change in the genetic predisposition is an unlikely cause of the increasing frequency in allergic diseases because genetic changes in a population require several generations. Consequently, environmental factors such as climate change and indoor and outdoor air pollution may contribute to explain the increasing frequency of respiratory allergy and asthma. Since concentrations of airborne allergens and air pollutants are frequently increased contemporaneously, an enhanced IgE-mediated response to aeroallergens and enhanced airway inflammation could account for the increasing frequency of allergic respiratory diseases and bronchial asthma. Scientific societies such as the European Academy of Allergy and Clinical Immunology, European Respiratory Society and the World Allergy Organization have set up committees and task forces to produce documents to focalize attention on this topic, calling for prevention measures.

Source: Ask your librarian to help locate this item.

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Temperature

Air Pollution: Allergens, Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): NO2;SO2

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location: ☑

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Asthma, Upper Respiratory Allergy

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified